

Fort Jefferson
Key West
Monroe County
Florida

HABS
FLA

44 - —

1 -

PHOTOGRAPHS
WRITTEN HISTORICAL AND DESCRIPTIVE DATA
Florida South District

Historic American Buildings Survey

Prepared at Washington Office

RECEIVED
FOLIO 15...

UNITED STATES
DEPARTMENT OF THE INTERIOR
Harold L. Ickes, Secretary

HABS
FLA

44- ———

1.

NATIONAL PARK SERVICE
Arno B. Cammerer, Director

FORT JEFFERSON NATIONAL MONUMENT
Dry Tortugas, Florida

Fort Jefferson was declared a national monument by Presidential Proclamation of January 4, 1935.. The monument is noted for its history, bird, and marine life. Its limits include the Dry Tortugas group, an area of approximately 12 square miles.

DRY TORTUGAS

The Dry Tortugas Islands form the southwestern tip of the Florida reef. Tortugas, Spanish for "turtles", was the name given the group in 1513 by their discoverer, Ponce de León, who found them literally alive with the large reptiles. Fantastic tales are told of the pirates who infested the Florida keys, preying upon the Spanish treasure fleets from Mexico. The pirate menace was removed by Commodore Porter, U.S.N., after Florida was purchased by the U.S. in 1821, and in 1825 a lighthouse was erected upon Garden Key, one of the islands. The present light on Loggerhead Key was built in 1856. Military strategists early saw the need for fortifying the Tortugas, both to protect the shipping route from the Gulf to the Atlantic, and to prevent enemy seizure of the islands for a base of operations against the U.S.

FORT JEFFERSON

Fort Jefferson, known as the "Key to the Mexican Gulf", is about a half mile in perimeter, with walls 45 feet high. It is one of the largest brick forts in the U.S. Designed for a garrison of 7500 men and an armament of 450 cannon, it is a hexagonal structure three tiers high, surrounded by a moat, the wall of which serves as a breakwater. The fort covers most of 10-acre Garden Key.

THE BUILDING OF FORT JEFFERSON

Construction of the fort started in 1846 and continued for 30 years. It was never completed. Invention of the rifled gun made the fort obsolete before its walls were finished. Engineers discovered too late that the foundations rested upon a coral reef, and consequently the huge structure settled.

Building materials were shipped mainly from the New England states, though during the 1850's much handmade brick came from southern ports and were found to withstand the climate better than the northern products.

The U.S. Engineer Corps supervised building, and from 1846 to 1863 the labor crew consisted mainly of Negro slaves from Key West and St. Augustine. After 1861 the Negroes were gradually replaced by hundreds of military prisoners. At the beginning of the War Between the States, though about \$1,250,000 had been spent in its construction, the fort was less than half finished. After 1866 little additional construction work was done.

THE WAR BETWEEN THE STATES

January 19, 1861, the Fort was garrisoned by Union forces, who held the post uninterruptedly. Later that year an expedition for the relief of Fort Pickens at Pensacola were sent from Fort Jefferson. Although the fort played no brilliant part in the conflict, its strategic position as a Federal stronghold hampered the introduction of supplies to the blockaded states.

YELLOW FEVER

There were occasional outbreaks of yellow fever at Fort Jefferson after 1854, but in 1867 came the major epidemic. The fever raged from August 18 to November 14, causing 38 deaths. About 300 were at the fort, and 270 of this number were attacked. A heroic actor in the tragedy was Dr. Samuel A. Mudd, Maryland physician who set John Wilkes Booth's broken leg after Booth assassinated President Lincoln April 14, 1865. Convicted of conspiracy, Mudd was sentenced to life imprisonment at hard labor, and arrived at Fort Jefferson July 24, 1865. His attempted escape in September of that year was unsuccessful, although escapes from the fort were not uncommon. One of the first victims of the 1867 epidemic was the Post Surgeon, Major Joseph Sim Smith. Mudd, with the help of Dr. D.W. Whitehurst of Key West, worked day and night to arrest the fever scourge. In 1869, Dr. Mudd was pardoned by President Johnson.

THE SPANISH WAR

Fort Jefferson declined rapidly in importance after the end of the War Between the States. By 1876, the post was abandoned, due to fever and hurricane damage, but during the 1880's the U.S. began a naval building program that brought about new interest in Fort Jefferson. It was from Tortugas harbor that the battleship Maine weighed anchor for Havana on January 28, 1898, and when on February 15 she was blown up in Havana harbor, the Navy Department immediately set about establishing a base at Tortugas. The war was over, however, before it was ready for use, and its coal sheds were hardly completed before a hurricane tore them to bits. By 1906 Fort Jefferson was again abandoned. During the World War, the fort was equipped as a wireless station, but with its removal, Fort Jefferson lapsed once more into obscurity.

Fort Jefferson
(Fort Jefferson National Monument)
Garden Key, Dry Tortugas Islands
Monroe County
Florida

HABS No. FL-44

Addendum to:

Fort Jefferson
Key West
Monroe County
Florida
(as recorded in 1934)

HABS
FLA,
44, —,
1-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN BUILDINGS SURVEY

FORT JEFFERSON
(Fort Jefferson National Monument)

HABS No. FL-44

Addendum to:

Fort Jefferson
Key West
Monroe County
Florida
(as recorded in 1934)

Location: Garden Key, Dry Tortugas Islands, Monroe County, Florida.
Garden Key is one of a group of Dry Tortugas islands, and
is approximately 68 miles west of Key West, Florida.

Mailing address:
Fort Jefferson National Monument
c/o U.S. Coast Guard Base
Key West, Florida 33040

Present Owner: National Park Service.

Present Occupant: National Park Service.
Site manager: Kevin G. Kacer (1984)

Present Use: National monument.

Significance: During the first half of the 19th century the United States began a chain of defenses from Maine to Texas. The largest link was Fort Jefferson, a hexagonal structure half a mile in perimeter surrounded by a wet moat and counterscarp. It was designed to accommodate 450 guns and a garrison of 1,500 men. Construction, interrupted by the Civil War, the development of the rifled cannon and other factors, was abandoned after 29 years.

PART I. HISTORICAL INFORMATION

A. Physical History:

1. Date of erection: Work started 1847; continued for 29 years but never completed.
2. Architects: Joseph G. Totten, Chief of Engineers, U.S. Army, and Lt. Montgomery C. Meigs, U.S. Army.
3. Original and subsequent owners: The information below chronicles ownership changes.

June 21, 1513: Ponce de Leon of Spain discovered Tortugas islands

1821: Cession of Florida by Spain to the United States by terms of the treaty of 1819

March 3, 1845: Florida became the 27th State

July 24, 1845: Florida legislature enabled transfer of the Tortugas islands to the United States for military purposes

1845: Florida ceded jurisdiction of the Tortugas islands to the United States. President Polk's executive order made the Tortugas islands military properties.

April 7, 1900: Fort Jefferson transferred to the Navy Department

April 6, 1908: Fort Jefferson transferred to the Department of Agriculture

January 4, 1935: President Roosevelt proclaimed Fort Jefferson a national monument

Present: National Park Service

4. Builder, contractor, suppliers: Norton and Parker, a contracting firm, were scheduled to make first shipment of materials by December 25, 1846. They went bankrupt and new bids were called for, and new contract was awarded to Andrew B. Vennard, a creditor for the bankrupt company. Bacon and Abercrombie of Pensacola, Florida was the prime supplier of brick until the Civil War.

See also original written HABS history of the fort, for some additional information.

5. Original plans and construction: See Architectural Information of this paper.

See also original written HABS history of the fort, under the subject, Fort Jefferson.

- B. Historical Context: See original written HABS history of the fort.

Some additional information: From 1900 to 1908 the fort was under the custody of the Navy Department. In 1908 it was transferred to the Department of Agriculture for use as a bird sanctuary. During World War II troops had to be stationed in the fort because of the threat of German submarines in the Florida coast.

PART II. ARCHITECTURAL INFORMATION

A. General Statement:

1. Architectural character: Important architectural elements include the following: six bastions and bastion towers, curtain wall of cisterns, two tiers of casemates and terreplein, counterscarp and moat, sally port, powder magazines, hot shot oven and barracks. Construction is of clay brick with granite trim; arch and vault, wall bearing structural systems.
2. Condition of fabric: Good.

B. Detailed Description:

1. Overall dimensions:
 - a. Long curtain wall, 478' approximately.
 - b. Short curtain wall, 324' approximately.
 - c. Moat, 70' wide
 - d. Wall height, from parade to cornice, 45'-0", approximately.
2. Counterscarp, moat and bridge:
 - a. Counterscarp: Brick facing with concrete filling; 2'-11" wide between earth and moat, 7'-11-1/2" wide between sea and moat; common and/or Flemish bonds; top of wall at grade and 3' average above low water level; drain between moat and sea passes through wall.
 - b. Moat: Wet moat 70' wide, sand bottom of varying depths
 - c. Bridge: Wood frame bridge on four 3' x 12' brick piers with granite coping at 15', 18' and 12' intervals. Wood frame and bridge deck of modern construction.
3. Scarp:
 - a. Foundation: Concrete 2'-0" thick by 14'-0" wide, 3'-0" below low water level, magistral 5'-0" above low water level; orange brick wall 10'-0" at foundation to 8'-0" at magistral; 45' from low water level to crest of parapet, batter of 1/8" per foot; two tiers of embrasures fronting casemates serving as gun rooms, sally port, guard rooms, and/or magazines. Embrasure iron frames and shutters are in place at the lower tier level only; some embrasures at the upper level are partly closed by brick curtain walls. Approximately 6' above the upper tier of embrasures a cordon of six courses of corbelled brick projects outwards 1'-6". The cornice, built of red brick, extends upwards from the cordon, beginning with a row of

small rectangular recesses of embrasure proportions suggesting an additional tier of gun ports; a contiguous corbelled machicolation of a repetitive pattern of three small round arches and a larger segmental arch which occurs over each small rectangular recess. A pan coupe of brick at outer and inner edges with earth fill completes the parapet.

4. Casemates:

- a. General descriptions: Casemates are vaulted spaces which occur in two tiers, separated by casemate piers and segmental arches. There are fourteen casemates in the short curtain, twenty three in the long curtain. Lower tier casemates, approximately 20' wide, 34' deep and 10' high, are used as a sally port, guard rooms, gun rooms and magazines. Communication galleries occur at the parade end of all casemates in both tiers, except at the magazines in the center of long curtain walls and at the bastion towers. Cisterns are below grade at all lower tier casemates. Casemates in the upper tier are approximately 12' high at crown of vault.
- b. Casemates, Gun Rooms:
 - (1) Floors of stone flagging, cement or brick. A stone or concrete tile set at a diagonal near the communication gallery in the lower tier only provides access to the cistern below. Traversing arcs in strap iron are set into the floor.
 - (2) Embrasures: Lower tier embrasures 3' x 6' penetrating 8' thick walls reduced to 5' by set backs and splayed jambs; embrasure iron and shutters in various state of ruin; an opening with a niche to either side occur near floor level.
 - (3) Embrasures: Upper tier embrasures are in various stages of incompleteness and/or ruin.
- c. Casemates, Sally Port:
 - (1) Frontispiece: Granite surround composed of pilasters and simple corbelled block capitals, segmental arch at entablature, cornice and pediment; reveals at jambs and head; opening 9'-0" wide x 12'-0" high. Three 3' x 5' vertical rectangular splayed openings in curtain wall above the sally port.

- (2) Passage, a vaulted space similar to other lower tier casemates except for the floor of granite block pavers, granite curbs and iron tracks for door swings; granite reveals at front and rear of passage; firing slits between passage and guard rooms splayed to allow cross-fire within the passage.
 - d. Casemates, Guard rooms adjacent to Sally port: Vaulted spaces similar to all lower tier casemates but without embrasures and partitions subdividing these spaces.
 - e. Casemates, Magazines at mid-point of long curtain walls in the lower tier: Enclosed communication gallery and two casemates; door and windows opening into the parade and communication gallery each side. Wood floor, brick walls and vaulted ceiling.
 - f. Casemates, Hospital: A portion of the upper tier casemates in the northwest curtain, closed in and once used for hospital functions, now provides housing for National Park Service personnel.
5. Casemate piers: Brick masonry piers receive vaulting of casemates and support the terreplein; pierced with segmental arches between casemates, semicircular arch of the communication gallery and an arched niche to provide for a filter closet. Granite slabs corbel outwards to mark the floor level of the upper tier.
 6. Communication galleries: Access passage between casemates behind gun rooms; continuous except at the magazines at mid-points of the lower tier, long curtain walls and at the bastion stair towers.
 7. Terreplein: Overall width at 33' from breast height wall to cornice at parapet side of curtain; brick cornice; terreplein sloping up to barbett; magazines on terreplein level, two on short curtains, three on long curtains; barbett emplacements between magazines, bomb-proofs at each side of emplacements below parapet; pintle stones and traverse iron fragments. Terreplein magazines are brick vaults back filled and covered. Original openings at both sides of the magazine onto the terreplein were closed and an entrance provided from a platform at the cornice of the inner wall of the curtain. Wood floors. Ventilation slits in walls.
 8. Bastions: Six bastions form the strong points of this structure, supporting three gun rooms at each side and one forward at the upper level; a two-space magazine and bastion stair tower occur at the intersections between each bastion and adjacent curtains (these angular intersections caused difficult vaulting problems). The northwest bastion once served as a bakery; fragments of fireplaces and ovens remain. Each bastion has a buttressing

projection with a granite coping. Scarp wall treatment is similar to that of the curtain. The terreplein of the bastion provides a continuous parapet and banquette. Bastion stair towers are octagonal in plan to the exterior. The parade doorway is rectangular in a round-arch niche. The interior of the bastion stair tower is a spiral stair of granite wedges continuing to the terreplein. Fragments of granite sills and/or copings occur at the top of the bastion stair tower walls. A lighthouse, consisting of storage spaces, watch room and lantern housing, projects above one bastion stair tower; it is constructed of riveted iron plate with wood board interior finish; an observation deck projects at the base of the watch room; no apparatus in lantern housing; cast-iron conical roof and ventilator finial.

9. Parade: The space defined by the six bastions and connecting curtain walls was used as a parade. Within the parade, a large grassed area with a few trees and a perimeter brick walk are the buildings. The foundation of a chapel (never completed) was a cistern.

C. Site:

1. General setting and orientation: As previously mentioned, Fort Jefferson is located on Garden Key, one of a group of Dry Tortugas islands, and is 68 miles west of Key West, Florida. Loggerhead Key Lighthouse, located across the southwest channel, is the most distant lighthouse from the mainland. A portion of the island is reserved for use as a wildlife refuge which is administered by the National Park Service. Ruins of U.S. Navy coaling stations lie to the north and south ends of Garden Key.

The entrance, or sally port, to the fort faces south.

2. Outbuildings:

- a. Powder Magazine A: Magazine A consists of a 28' x 48' vaulted space with four 9' x 12' vaults at each side, with entrances through baffled spaces at each end. The spring line of 4' thick brick shell of the central vault is at the roof of the side vaults. Side and end vaulted spaces are enclosed in rectangular masses providing a base for the central vault, the most dynamic element of the building. Interior spaces are unfinished or in ruins, with bronze door pintles in place, recesses to receive wood beams and flooring, etc. A rectangular projection with a 5' x 9' x 12' high opening with a

chase or flue above. Corbelled ventilation slits occur through the shell of the large vault. See also separate file: Fort Jefferson, Powder Magazine A, HABS No. FL-44-C.

- b. Powder Magazine B: This small magazine consists of a central open space 20' x 30' with two 8' x 13' vaulted spaces at each end and paralleling the long dimension. 8' thick walls 12' high surround the vaulted spaces and central space; construction appears to have been halted before completion. See also separate file: Fort Jefferson, Powder Magazine B, HABS No. FL-44-D.
- c. Barracks and Officers' Quarters (ruins): Barracks were at the east side of the parade, Officers' Quarters to the northwest. Rectangular in plans; built of red brick with granite thresholds and slabs; slate flagging; rubble fill with traces of nails for flooring sleepers, fireplaces, etc. See also two separate files: Enlisted Men's Barracks I, HABS No. FL-44-A, and Enlisted Men's Barracks II, HABS No. FL-44-B. There is no separate file for Officers' Quarters.
- d. Hot Shot Furnace: This structure is of brick with granite trim, 9' x 33', sloping from 7' to 11' with a chimney at the upper end; a vaulted space built of fire brick parallels the slope; 1' x 3' openings at both ends, with an iron grille floor of 4" square rods supported on 4" square cross pieces at 2'-0" on center; a fire chamber with openings each side and flue beneath grille to chimney; fourteen 1" tie rods with star washers across short dimension parallel slope of vaulted space; slag on top of fragments indicates a gable roof once covered the structure. See also separate file: Fort Jefferson, Hot Shot Furnace, HABS No. FL-44-E.
- e. National Park Service Superintendent's Quarters: Two-story brick house with a gable roof and a wood porch was occupied by the construction foreman, located at the west side of the parade. There is no separate file for this building.

PART III. SOURCES OF INFORMATION

A. Original Architectural Drawings:

Maps and plans of the fort. Consult National Archives, Washington, D.C., if they have them. They had been filed with the U.S. Engineer Department.

B. Early Views:

National Archives, Washington, D.C. Old photographs of the fort.

Prucha, Francis Paul. A Guide to the Military Posts of the United States. Milwaukee: The North American Press, 1964. Aerial view of the fort, p. 123.

Robinson, Willard B. American Forts, Architectural Form and Function. University of Illinois Press, 1977. Historical views of the fort, figures 64 and 65 and text, p. 115.

C. Bibliography:

1. Primary and unpublished sources:

National Archives, Washington, D.C. Various records pertaining to Fort Jefferson. They had been filed in the U.S. Engineer's Office, the War Department and the Adjutant General's Office. Records include letters, reports, plans, and notes.

2. Secondary and published sources:

Robinson, Willard B. American Forts, Architectural Form and Function. University of Illinois Press, 1977. Text p. 115, and historical views, figures 64 and 65.

Kinney, Sheldon H. "Dry Tortugas." United States Naval Institute Proceedings. (No. 76, April 1950): 425-429.

Wilson, Frazer Ellis. "Fort Jefferson: The Frontier Post of the Upper Miami Valley." 1950.

Works Projects Administration. "History of the Fort Jefferson National Monument. Part One: The Fort at Garden Key, 1846-1860." Key West, Florida, 1936. (Typescript copy in the Library of Congress).

Brinton, Daniel G. A Guide-Book of Florida and the South. Jacksonville, Fla: Columbus Drew, 1869. 136 pp., map. A reliable book for contemporary description. Fort Jefferson is treated on pp. 101-102.

Harper's Magazine, July 22, 1865. Account of the departure of Mudd and other prisoners for Tortugas.

Mudd, Nettie (compiler and editor), The Life of Dr. Samuel A. Mudd. New York and Washington: Neale Publishing Co., 1906. 326 pp. Major coverage is 1865-1869, Mudd's letters from Fort Jefferson. Valuable as a record of prison life at the fort and as a detailed, impressionistic account of the 1867 epidemic. It is, in addition, the best biographical sketch of Mudd.

Shinn, Josiah H. Fort Jefferson and Its Commander 1861-62. New York: Governor's Island, 1910. Reprinted from the Journal, Military Science Institution, 25 pp. A narrative of the establishment of the first garrison at the fort, compiled "from the Official Records and Other Authentic Sources." It contains a few copies of pertinent documents, sketches, events and conditions at the fort, and emphasizes Maj. L. G. Arnold's character as the "maker" of Fort Jefferson. It is of special value in recording numerous anecdotes and reminiscences.

Newspaper articles:

Florida Democrat, January 23, 1846. Pensacola, Florida.

Florida Herald and Southern Democrat, August 13, 1844. St. Augustine, Florida.

The News, February 27, 1846. Jacksonville, Florida.

Niles Register, October 17, 1829.

Pensacola Gazette, May 1, 1841; April 2, May 14, July 2, October 15, 1842; January 13, December 21, 1844. Pensacola, Florida.

Southern Journal, November 3, 1846. Tallahassee, Florida.

Jackson, Nancy Beth. "Memory of Lincoln's Assassination Lingers about Island Fortress." The New York Times, October 4, 1970.

Bullard, Jean. "Old Fort Jefferson." National Park Courier. (National Park Service) (Vol. 19, No. 9, September 1972): 6-7.

Historical information prepared by:

John Deweese
Everglades National Park Headquarters
September, 1967

Susan McCown
Historian, Historic American
Buildings Survey (HABS)
October, 1984

Architectural information prepared by:

F. Blair Reeves, A.I.A.
Gainesville, Florida
August, 1984